REMARKS

<u>Summary of the Office Action and this Amendment</u>

In paragraph 2 of the office action mailed 9/14/06, the examiner states:

Claims 1-4, 7-9, 15-20 and 22-26 are rejected under

35 U.S.C. 102(e) as being anticipated by Idei et al. (U.S.

Patent Application Publication 2003/0177330).

In paragraph 4 of the office action the examiner states:

Claims 11-14 and 21 are rejected under 35 U.S.C.

103(a) as being unpatentable over Idei et al. (U.S. Patent

Application Publication 2003/0177330), and in view of

Murray et al. (U.S. 7,007,048).

In paragraph 5 of the office action the examiner states:

Claim 5 is rejected under 35 U.S.C. 103(a) as being

unpatentable over Idei et al. (U.S. Patent Application

Publication 2003/0177330), and in view of Matsuda et al.

(U.S. 7,020,668).

In paragraph 6 of the office action the examiner states:

Claims 6 is rejected under 35 U.S.C. 103(a) as being

unpatentable over Idei et al. (U.S. Patent Application

Publication 2003/0177330), and in view of Lo et al. (U.S.

Patent Application Publication 2002/0103943).

In paragraph 7 of the office action the examiner states:

Claim 10 is objected to as being dependent upon a

rejected base claim, but would be allowable if rewritten in

independent form including all of the limitations of the base claim and any intervening claims.

In this Amendment, the applicant has amended claims 1, 10, 17, 18, 19, 22, and 23, and has added new claims 27-37. Support for the amendments and new claims can be found, for example, in FIGS. 1, 4A, 4B, and 4C, and in the specification at page 3, lines 13-15, page 6, lines 5-7, page 8, lines 25-29, page 9, lines 3-7, page 9, lines 10-15, page 9, lines 28-29, page 10, lines 1-4, page 10, lines 11-28, page 11, lines 1-9, page 12, lines 1-9, and at page 13, lines 1-16, No new matter has been added. Claims 1-37 are now pending in the application.

Claim Objections: Claim 10

As mentioned above, in paragraph 7 of the office action the examiner states:

Claim 10 is objected to as being dependent upon a
rejected base claim, but would be allowable if rewritten in
independent form including all of the limitations of the base
claim and any intervening claims.

Claim 10 has been amended herein in accordance with the examiner's suggestion. Claim 10 as amended herein is in independent form including all of the limitations of the base claim and any intervening claims. Consequently, the applicant submits that claim 10 is now is condition for allowance.

Claim Rejections - 35 U.S.C. 102 and 35 U.S.C. 103
a. Legal Criteria for 35 U.S.C. 102

A claim is anticipated only if each and every element as set
forth in the claim is found, either expressly or inherently
described, in a single prior art reference." *Verdegaal Bros. v.
Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d
1051, 1053 (Fed. Cir. 1987). . . . "The identical invention
must be shown in as complete detail as is contained in the ...
claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226,
1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

MPEP § 2131 (8th ed., rev. 4, Oct. 2005).

b. Legal Criteria for 35 U.S.C. 103

To establish a *prima facie* case of obviousness, three basic
criteria must be met. First, there must be some suggestion or
motivation, either in the references themselves or in the
knowledge generally available to one of ordinary skill in the

art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck,* 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

MPEP § 706.02(j) (8th ed., rev. 4, Oct. 2005).

The mere fact that references <u>can</u> be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills,* 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

MPEP § 2143.01 (8th ed., rev. 4, Oct. 2005) (emphasis in original).

When applying 35 U.S.C. 103, the following tenets of patent law must be adhered to:

(A) The claimed invention must be considered as a whole;

(B) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination;

(C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and

(D) Reasonable expectation of success is the standard with which obviousness is determined.

Hodosh v. Block Drug Co., Inc., 786 F.2d 1136, 1143 n.5, 229 USPQ 182, 187 n.5 (Fed. Cir. 1986).

MPEP § 2141 (8th ed., rev. 4, Oct. 2005).

In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983); *Schenck v. Nortron Corp.*, 713 F.2d 782, 218 USPQ 698 (Fed. Cir. 1983).

MPEP § 2141.02 (8th ed., rev. 4, Oct. 2005).

c. Discussion Regarding the 35 U.S.C. 102 and 35 U.S.C. 103 Rejections

As mentioned above, in paragraph 2 of the office action the examiner states:

> Claims 1-4, 7-9, 15-20 and 22-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Idei et al. (U.S. Patent Application Publication 2003/0177330).

In paragraph 4 of the office action the examiner states:

> Claims 11-14 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Idei et al. (U.S. Patent Application Publication 2003/0177330), and in view of Murray et al. (U.S. 7,007,048).

In paragraph 5 of the office action the examiner states:

> Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Idei et al. (U.S. Patent Application Publication 2003/0177330), and in view of Matsuda et al. (U.S. 7,020,668).

In paragraph 6 of the office action the examiner states:

> Claims 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Idei et al. (U.S. Patent Application Publication 2003/0177330), and in view of Lo et al. (U.S. Patent Application Publication 2002/0103943).

The independent claims currently pending are claims 1, 10, 17, 18, 19, 22, and 23 as amended herein. As discussed above, claim 10 has been amended herein to be placed in a form the examiner stated would be allowable. The applicant submits that all of the independent claims as amended herein include limitations that are not described in Idei, and that are not taught or suggested by Idei, Murray, Matsuda, or Lo.

<u>Claims 1, 19, 23</u>:

The applicant submits that claims 1, 19, and 23 as amended herein, include at least the following limitations that are not described in Idei:

changing the block virtualization indicator to a value
<u>indicating that the data is available for access by an application</u>,
after the subset of the data has been written to the storage space
and <u>without waiting for the entire data to be written to the storage</u>
<u>space</u>.

<u>Claim 17</u>:

The applicant submits that claim 17 as amended herein, includes at least the following limitations that are not described in Idei:

<u>releasing the data for application access</u> after the subset of
the data has been written to the storage space <u>and without waiting</u>
<u>for the entire data to be written to the storage space</u> ....

<u>Claim 18</u>:

The applicant submits that claim 18 as amended herein, includes at least the following limitations that are not described in Idei:

<u>allowing an application to begin using the restored data</u>,
<u>after a subset of the data has been restored</u> using the order in which
references to the blocks are expected, and <u>without waiting for the</u>
<u>entire data to be restored</u> ....

<u>Claim 22</u>:

The applicant submits that claim 22 as amended herein, includes at least the following limitations that are not described in Idei:

means for changing the block virtualization indicator to a value <u>indicating that the data is available for access by an application</u>, after the subset of the data has been written to the storage space and <u>without waiting for the entire data to be written to the storage space</u>.

In view of the discussion above, the applicant submits that the independent claims as presented herein are not anticipated by Idei, because each and every element as set forth in the claims is not found, either expressly or inherently described in Idei. In summary, the applicant submits that Idei does not describe each and every element set forth in claims 1, 17, 18, 19, 22, and 23, and therefore, the rejections of those claims should be withdrawn. Further, the applicant submits that all of the claims presented herein are nonobvious in view of Murray, Matsuda, and Lo, because the references do not teach or suggest all of the claim limitations of any of the claims presented herein.

<u>New Claims 27-37</u>

New claims 27-37 have been added in this amendment. The new claims are all dependent upon claim 1, and should be allowable for at least the reasons discussed above regarding claim 1. Additionally, the applicant submits that the limitations of the new claims are not described in the references, and are not taught or suggested by the references. Some examples of these limitations for some of the new claims are discussed below:

<u>Claim 27:</u>

The applicant submits that new claim 27 includes the limitations that are not described in the references and that are not taught or suggested by the references. Because claim 27 is dependent upon claim 1, some of the limitations from claim 1 as amended herein, are presented here to place the limitations of claim 27 in context.

Although claim 1 recites: "changing the block virtualization indicator to a value <u>indicating that the data is available for access by an application</u>, after the subset of the data has been written to the storage space and without waiting for the entire data to be written to the storage space", <u>claim 27 adds the additional limitation of "permitting the application to access requested blocks of the data, only if the application requests access to blocks of the data that have been written to the storage space."</u>

<u>Claim 28:</u>

The applicant submits that new claim 28 includes the limitations that are not described in the references and that are not taught or suggested by the references. Because claim 28 is dependent upon claim 1, some of the limitations from claim 1 as amended herein, are presented here to place the limitations of claim 28 in context.

Although claim 1 recites: "changing the block virtualization indicator to a value indicating that the data is available for access by an application, after the subset of the data has been written to the storage space and without waiting for the entire data to be written to the storage space", claim 28 adds the additional limitation of "indicating a busy

condition, and writing blocks of the data for which access is requested, to the storage space on a priority basis, if the application requests access to blocks of the data that have not been written to the storage space." In other words, although claim 1 recites "changing the block virtualization indicator to a value <u>indicating that the data is available for access</u> by an application, after the subset of the data has been written to the storage space and without waiting for the entire data to be written to the storage space", <u>claim 28 recites</u> "<u>indicating a busy condition</u>, and writing blocks of the data for which access is requested, to the storage space on a priority basis, <u>if the application requests access to blocks of the data that have not been written to the storage space</u>."

Claim 30:

The applicant submits that new claim 30 includes at least the following limitations that are not described in the references and that are not taught or suggested by the references: "wherein the subset of the data is a designated quantity of blocks of the data."

Claim 31:

The applicant submits that new claim 31 includes at least the following limitations that are not described in the references and that are not taught or suggested by the references: "wherein the subset of the data has a <u>size that is a function of the access pattern of the data and the data type</u>."

Claim 32:

The applicant submits that new claim 32 includes at least the following limitations that are not described in the references and that are not taught or suggested by the references: "wherein <u>the subset of the data is 1 block of the data</u>."

Claim 33:

The applicant submits that new claim 33 includes at least the following limitations that are not described in the references and that are not taught or suggested by the references: "wherein the subset of the data is 10,000 blocks of the data."

Claim 34:

The applicant submits that new claim 34 includes at least the following limitations that are not described in the references and that are not taught or suggested by the references: "wherein the subset of the data is 10 percent of data blocks of the data."

Amendments, and Dependent Claims in General

The applicant submits that all of the dependent claims are novel and nonobvious for at least the reasons discussed above with regard to the independent claims. Some of the claim amendments in this amendment were made to clarify the wording and to correct typographical errors.

Conclusion

Claim 10 has been amended herein to be placed in a form the examiner stated would be allowable. Further, the applicant submits that all of the claims as presented herein are novel and nonobvious in view of the cited references. In conclusion, the applicant respectfully submits that the application is in condition for allowance, and applicant requests reconsideration and further examination, and allowance of the application. Any additional fees required in connection with this amendment that are not specifically provided for herewith are authorized to be charged to Deposit Account No. 09-0466 in the name of International Business Machines Corporation.

Respectfully submitted,

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